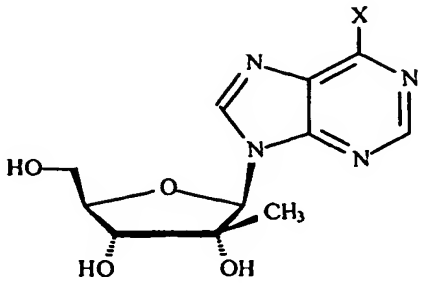
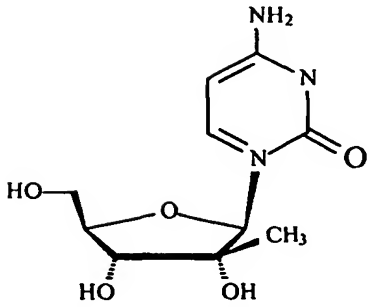
CLAIMS

What is claimed is:

1. A compound according to Formula 1 or Formula 2:



Formula 1



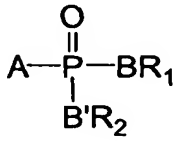
Formula 2

wherein X is selected from the group consisting of NH_2, $NHCH_3$, $N(CH_3)_2$, OCH_3, and SCH_3.

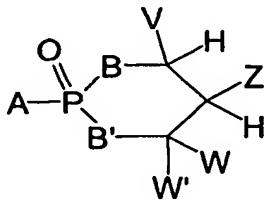
2. The compound of claim 1 further comprising a moiety covalently coupled to at least one of the C2'-atom, C3'-atom, and C5'-atom, and wherein at least part of the moiety is preferentially cleaved from the compound in a target cell or target organ.

3. The compound of claim 2 wherein the moiety comprises a cyclic phosphate, a cyclic phosphonate or a cyclic phosphoamidate.

4. The compound of claim 2 wherein the moiety has a structure according to Formula M1 or Formula M2



M1



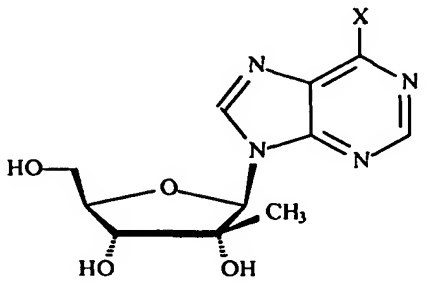
M2

wherein A in M1 or M2 is O or CH_2 and replaces the 5'-OH group of the compound of Formula 1 or Formula 2;

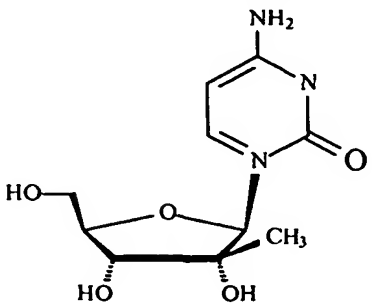
B and B' are independently O or NH, and where B is NH then R_1 or R2 is an amino acid that forms a peptide bond with the N atom of the NH; and

V, W, and W' are independently hydrogen, alkyl, alkenyl, alkynyl, aryl, alkaryl, each of which is optionally substituted, and Z is hydrogen, CHWOH, CHWOCOW', SW, or CH_2aryl.

5. A pharmaceutical composition comprising a compound of Formula 1 or Formula 2:



Formula 1



Formula 2

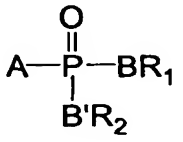
wherein X is selected from the group consisting of NH_2, $NHCH_3$, $N(CH_3)_2$, OCH_3, and SCH_3; and

wherein the compound is present in the composition at a concentration effective to inhibit viral RNA replication.

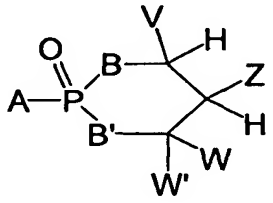
6. The composition of claim 5 wherein the compound further comprises a moiety covalently coupled to at least one of the C2'-atom, C3'-atom, and C5'-atom, and wherein at least part of the moiety is preferentially cleaved from the compound in a target cell or target organ.

7. The composition of claim 6 wherein the moiety comprises a cyclic phosphate, a cyclic phosphonate or a cyclic phosphoamidate.

8. The composition of claim 6 wherein the moiety has a structure according to Formula M1 or Formula M2



M1



M2

wherein A in M1 or M2 is O or CH_2 and replaces the 5'-OH group of the compound of Formula 1 or Formula 2;

B and B' are independently O or NH, and where B is NH then R_1 or R2 is an amino acid that forms a peptide bond with the N atom of the NH; and

V, W, and W' are independently hydrogen, alkyl, alkenyl, alkynyl, aryl, alkaryl, each of which is optionally substituted, and Z is hydrogen, CHWOH, CHWOCOW', SW, or CH_2aryl.

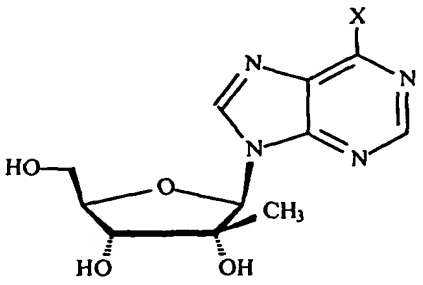
9. The composition of claim 5 wherein X comprises a nitrogen atom.

10. The composition of claim 5 wherein X is OCH_3 or SCH_3.

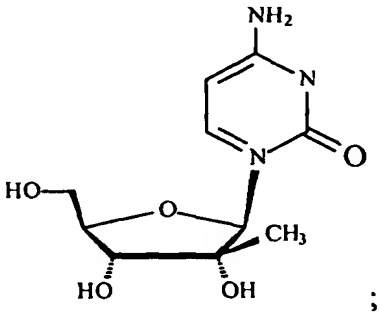
11. The composition of claim 5 wherein viral RNA replication is that of HCV.

12. The composition of claim 11 wherein hepatitis C virus replication is mediated by an RNA-dependent RNA polymerase.

13. A method of treating a viral infection in a mammal comprising:
presenting a compound according to Formula 1 or Formula 2 to a cell of the mammal infected with a virus at a concentration effective to reduce viral propagation;



Formula 1



Formula 2

; and

wherein X is selected from the group consisting of NH_2, $NHCH_3$, $N(CH_3)_2$, OCH_3, and SCH_3.

14. The method of claim 13 wherein the viral infection comprises an organ inflammation.

15. The method of claim 13 wherein the cell is a hepatocyte.

16. The method of claim 13 wherein the virus is a member of the *Flaviviridae*.

17. The method of claim 13 wherein the virus is a hepatitis C virus.

18. The method of claim 13 wherein the step of presenting comprises intracellular presentation.

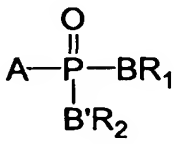
19. The method of claim 13 further comprising administering the compound as a prodrug to the mammal, wherein the prodrug is converted to the compound in the mammal.

20. The method of claim 19 wherein the prodrug is preferentially converted to the compound in the liver.

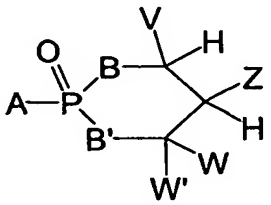
21. The method of claim 19 wherein the prodrug comprises an ester bond that is cleaved to yield the compound.

22. The method of claim 21 wherein the prodrug comprises a cyclic phosphate, a cyclic phosphonate or a cyclic phosphoamidate.

23. The method of claim 21 wherein the prodrug comprises a moiety having a structure according to Formula M1 or Formula M2



M1



M2

wherein A in M1 or M2 is O or CH_2 and replaces the 5'-OH group of the compound of Formula 1 or Formula 2;

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24. The method of claim 13 further comprising, administration of a second pharmacological molecule.

25. The method of claim 24 wherein the second pharmacological molecule is selected from the group consisting of ribavirin, interferon-alpha, interferon-gamma, and a molecule that induces expression of a interferon-alpha or interferon-gamma in the mammal.